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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,893	03/16/2007	Jin-Ho Jo	123037-06063314	3486

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EXAMINER	
TRINH, TAN H	

ART UNIT	PAPER NUMBER
2618	

MAIL DATE	DELIVERY MODE
09/09/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/579,893	JO ET AL.	
	Examiner	Art Unit	
	TAN TRINH	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 June 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3 and 5* is/are rejected.

7)☒ Claim(s) *2 and 4* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 May 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *06-18-2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 06-18-2008 has been entered.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 06-18-2008, the information disclosure statement has been considered by the examiner.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimasaki (U.S. Patent No. 4,004,098) in view of Gibson (U.S. Patent No. 4,599,680).

Regarding claims 1 and 5, Shimasaki discloses (Figs. 2, 9) a command and control subsystem 24 and a distribution control unit 22 that together correspond to the switch controlling apparatus claimed and control a satellite matrix switch 20 that corresponds to the switch claimed of a satellite transponder 1 for multi-beam communication (Fig. 1 depicts satellite transponder 1 providing beams to S1 and S2 as well as satellite 2, hence multi-beam (see column 4, lines 28-39) comprising: telemetry logic 84 and command logic 80 that together correspond to the earth control station interfacing means claimed and respectively provide for terrestrial monitoring of the contents of the satellite control memory (i.e., collect and report to the earth control station operating states of the switch controlling apparatus) (column 12, lines 64-66) and receive and process commands from ground control (i.e., an earth control station) (column 12, line 66-column 13, line 3); oscillator 82 and digital dividers 88 that correspond to the reference clock claimed and provides a central timing reference for the communications system that controls the timing of the satellite switching matrix 20 (column 13, lines 4-9) thereby providing a reference signal needed for the operation of the apparatus based on the reference clock; and a distribution control unit 22 that corresponds to the switch controlling means claimed and stores in control memory 91 traffic flow data that corresponds to the switching sequence claimed (column 11, lines 52-55), which may be altered to adapt to changes in traffic flow in response to ground commands (i.e., stored periodically) (column 11, lines 56-59), verifies (i.e., detects errors) (column 11, lines 59-61) and applies (i.e., transmits) the switch control signal to the satellite switching matrix 20 that corresponds to the RF switch claimed (column 12, lines 6-10).

Therefore, Shimasaki anticipates all elements of the claims except that while disclosing verification of the contents of the memory, Shimasaki does not explicitly disclose correcting an error in the contents of the memory.

However, US 4,599,680 to Gibson et al. discloses use of error correction in a spacecraft memory (column 7, lines 51-53). Gibson further discloses that such an arrangement greatly reduces the problem of radiation affecting memory contents.

It would have been obvious to one skilled in the art at the time of the invention to apply error correction as taught by Gibson to the satellite control system taught by Shimasaki for the purpose of mitigating the effects of radiation on the operation of the satellite. (Regarding claim 5, as shown above apropos of claim 1, the structures disclosed in the combination perform the functions claimed).

Regarding claim 3, Shimasaki discloses the reference frequency (82) generating means includes: a reference clock generator which is formed of a voltage control crystal oscillator (82) (VCXO) generating highly stable clocks (86) and receives frequency control data from an earth station to thereby correct phase difference from clocks of the earth station ; and a reference frequency generator for generating various synchronization signals needed to operate the switch controlling apparatus (20) based on the clocks generated in the reference clock generator (see col. 12, lines 62-col. 13, lines 17).

Allowable Subject Matter

5. Claims 2 and 4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Reasons for allowance

6. The following is an examiner's statement of reasons for allowance:

Regarding dependent claim 2, Shimasaki discloses (Figs. 2, 9) a command and control subsystem 24 and a distribution control unit 22 that together correspond to the switch controlling apparatus claimed and control a satellite matrix switch 20 that corresponds to the switch claimed of a satellite transponder 1 for multi-beam communication (Fig. 1 depicts satellite transponder 1 providing beams to S1 and S2 as well as satellite 2, hence multi-beam (see column 4, lines 28-39). However, Shimasaki alone or in combination with other prior art of record, fail to disclose: The switch controlling apparatus as recited in claim 1, wherein the earth control station interfacing means includes: a controller for receiving control commands transmitted upwardly from the earth control station, analyzing the commands and transmitting the commands to corresponding parts of the switch controlling apparatus; and a monitoring unit for collecting operation states of modules in the switch controlling apparatus periodically and transmitting the operation states to the earth control station so that operation states of the switch controlling apparatus can be monitored in the earth control station, as specified in dependent claim 2.

Regarding dependent claim 2, Shimasaki discloses (Figs. 2, 9) a command and control subsystem 24 and a distribution control unit 22 that together correspond to the switch controlling apparatus claimed and control a satellite matrix switch 20 that corresponds to the switch claimed

of a satellite transponder 1 for multi-beam communication (Fig. 1 depicts satellite transponder 1 providing beams to S1 and S2 as well as satellite 2, hence multi-beam (see column 4, lines 28-39). However, Shimasaki alone or in combination with other prior art of record, fail to disclose: The switch controlling apparatus as recited in claim 3, wherein the switch controlling means includes: a memory interface unit for reading switching data stored in a duplexer and writing updated switching data transmitted upwardly from the earth station in the duplexer;
the duplexer for performing duplexing to operate a preparatory memory when a main memory is out of order during signal transmission/reception with the memory interface unit; a switching signal processor for preventing an error in a switching signal to be transmitted to the RF switch; an output controller for transmitting the switching signal to the RF switch; an operation frequency generator for generating an operation time needed for the operation of the switch controlling apparatus based on the clock and synchronization signals generated in the reference frequency generating means; and a memory controller for synchronizing data communication with the duplexer by controlling the operation of the memory interface unit, as specified in dependent claim 4.

Conclusion

7. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(571) 273-8300, (for Technology Center 2600 only)

*Hand-delivered responses should be brought to the Customer Service Window (now located at the **Randolph Building, 401 Dulany Street, Alexandria, VA 22314).***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tan Trinh whose telephone number is (571) 272-7888. The examiner can normally be reached on Monday-Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiners supervisor, Anderson, Matthew D., can be reached at (571) 272-4177.

The fax phone number for the organization where this application or proceeding is assigned is **(571) 273-8300**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Technology Center 2600 Customer Service Office** whose telephone number is **(703) 306-0377**.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tan H. Trinh
Division 2618
September 7, 2008

/TAN TRINH/
Primary Examiner, Art Unit 2618
09-07-2008